APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,447	06/01/2001	Brian Boles	18153.0045	8455

23517   7590   01/22/2004

SWIDLER BERLIN SHEREFF FRIEDMAN, LLP
3000 K STREET, NW
BOX IP
WASHINGTON, DC 20007

EXAMINER
CLEARY, THOMAS J

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. ●● 09/870,447	Applicant(s) BOLES ET AL.
	Examiner Thomas J. Cleary	Art Unit 2111

-- Th MAILING DATE of this communication app ars on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>16 November 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 September 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   The information disclosure statement filed 16 November 2001 fails to comply with

37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each

publication or that portion which caused it to be listed; and all other information or that

portion which caused it to be listed. It has been placed in the application file, but the

information referred to therein has not been considered unless indicated on attached

PTO Form 892. Applicant is advised to file an information disclosure statement

including copies of all references Applicant wishes considered. To ease the burden on

the Applicant, The Examiner recommends using the Electronic Filing System (EFS) to

file an Electronic Information Disclosure Statement (eIDS). EFS and eIDS are available

on the USPTO Internet site at http://www.uspto.gov/ebc/efs/index.html.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

3.   Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it

pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 20 states that the interrupt disable logic generates an interrupt enable until the

number reaches a predetermined value. The specification only discloses that an

interrupt disable signal is generated while the counter is counting, and an interrupt

enable signal is generated when the counter reaches a predetermined value.

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claim 4 recites the limitation "the pointer" in Line 1. There is insufficient

antecedent basis for this limitation in the claim.

6.   Claim 18 recites the limitation "the predetermined value" in Line 1. There is

insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8.   Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by US Patent

Number 6,084,880 to Bailey et al. ("Bailey").

9.   In reference to Claim 1, Bailey teaches issuing an instruction to disable interrupts

for a period of time specified in the instruction (See Column 15 Lines 27-41).

10.   In reference to Claim 5, Bailey teaches the limitations as in Claim 1 above.

Bailey further teaches that the instruction indicates which bits in the master control

register to set (See Figure 8, Column 15 Lines 34-37), said bits indicating how long to

disable interrupts.

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey as applied to Claim 1 above, and further in view of US Patent Number 6,181,151 to Wasson ("Wasson").

13.   In reference to Claim 2, Bailey teaches the limitations as in Claim 1 above. Bailey does not teach that the instruction operand is the number. Wasson teaches an instruction wherein the operand is a value for a counter indicating the number of cycles data is to be tested (See Column 5 Lines 64-67 and Column 6 Lines 1-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Bailey with the instruction operand containing a counter value of Wasson, resulting in the invention of Claim 2, in order to allow the instruction to have the number of cycles included directly in it (See Abstract and Column 3 Lines 30-34 of Wasson).

14.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey as applied to Claim 1 above, and further in view of US Patent Number 5,826,072 to Knapp et al. ("Knapp").

15.   In reference to Claim 3, Bailey teaches the limitations as in Claim 1 above. Bailey does not teach that the instruction operand is a pointer to the number. Knapp teaches an instruction with a pointer that points to the memory location containing an operand that the instruction is intended to operate on (See Column 12 Lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Bailey with the instruction operand pointer of Knapp, resulting in the invention of Claim 3, in order to allow the operand to be stored in a memory location separate from the instruction, and thus make the instruction and the counter value independent of each other(See Column 12 Lines 59-63 of Knapp).

16.   Claims 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey as applied to Claim 1 above, and further in view of US Patent Number 5,056,004 to Ohde et al. ("Ohde") and the Microsoft Computer Dictionary ("Microsoft").

17.   In reference to Claim 6, Bailey teaches the limitations as in Claim 1 above. Bailey does not teach that the number is loaded into a register. Ohde teaches storing a counter value in a register (See Column 1 Lines 42-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Bailey with the counter stored in a register of Ohde, resulting in the invention of Claim 6, in order to provide high-speed access to the timer indicating how long the interrupts are disabled (See "register" on Page 402 of Microsoft).

18.   In reference to Claims 7, 8, and 10, Bailey and Ohde teach the limitations as in Claim 6 above. Bailey does not teach changing the number stored in the register based

on processor cycles until the number reaches a predetermined value as in Claim 7;

wherein the changing is decrementing the number, as in Claim 8; and wherein the

predetermined number is 0, as in Claim 10. Ohde further teaches decrementing the

number stored in the register after each repetition until the number reaches 0 (See

Column 1 Lines 42-50).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the device of Bailey with the counter stored in a register

of Ohde, resulting in the invention of Claims 7, 8, and 10, in order to provide high-

speed access to the timer indicating how long the interrupts are disabled (See "register"

on Page 402 of Microsoft).

19.   In reference to Claim 9, Bailey and Ohde teach the limitations as in Claim 7

above. Bailey and Ohde do not teach that the changing is incrementing the number in

the register. At the time the invention was made, it would have been obvious to a

person of ordinary skill in the art to increment the number in the register because

Applicant has not disclosed that incrementing the number in the register provides an

advantage, is used for a particular purpose, or solves a stated problem. One of ordinary

skill in the art, furthermore, would have expected Applicant's invention to perform

equally well with either decrementing the number stored in the register, as taught by

Bailey and Ohde, or incrementing the number stored in the register, as claimed,

because both methods perform the function of counting a specified number of counts,

and because incrementing and decrementing both require the same hardware and run time to perform the operation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bailey and Ohde to obtain the invention specified in Claim 9.

20.   In reference to Claim 11, Bailey and Ohde teach the limitations as in Claim 7 above. Bailey further teaches that the bits in the interrupt enable register that disable the interrupts (analogous to an interrupt disable signal) stay written throughout the entire time that the timer is set to disable interrupts (See Figure 7, Column 15 Lines 15-16, and Column 15 Lines 37-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Bailey with the counter stored in a register of Ohde, resulting in the invention of Claim 11, in order to provide high-speed access to the timer indicating how long the interrupts are disabled (See "register" on Page 402 of Microsoft).

21.   In reference to Claim 12, Bailey and Ohde teach the limitations as in Claim 11 above. Bailey and Ohde do not explicitly teach that an interrupt enable signal is generated when the number reaches a predetermined value. Bailey teaches that the interrupts are re-enabled when the timer finishes, and thus, an interrupt enable signal is inherently generated (See Column 15 Lines 27-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Bailey with the counter stored in a register of Ohde, resulting in the invention of Claim 6, in order to provide high-speed access to the timer indicating how long the interrupts are disabled (See "register" on Page 402 of Microsoft).

22.   In reference to Claim 14, Bailey teaches issuing an instruction to disable interrupts for a period of time specified in the instruction (See Column 15 Lines 27-41). Bailey does not teach a program memory for storing instructions; a register for storing the number; and an instruction fetch/decode unit for fetching and decoding instructions. Bailey further teaches that the host, such as a supercomputer (See Figure 2 Number 76), can disable interrupts in the ASIC (See Column 15 Lines 27-29). The supercomputer would inherently include a program memory for storing instructions; a register for storing the number; and an instruction fetch decode unit for fetching and decoding instructions. Ohde teaches storing a counter value in a register (See Column 1 Lines 42-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Bailey with the counter stored in a register of Ohde, resulting in the invention of Claim 14, in order to provide high-speed access to the timer indicating how long the interrupts are disabled (See "register" on Page 402 of Microsoft).

23.   In reference to Claims 15 and 17, Bailey and Ohde teach the limitations as in

Claim 14 above. Bailey does not teach the register changing the number based on

processor cycles, as in Claim 15; and wherein the register changes the number by

decrementing it, as in Claim 17. Ohde further teaches decrementing the number stored

in the register after each repetition until the number reaches 0 (See Column 1 Lines 42-

50).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the device of Bailey with the counter stored in a register

of Ohde, resulting in the inventions of Claims 15 and 17, in order to provide high-speed

access to the timer indicating how long the interrupts are disabled (See "register" on

Page 402 of Microsoft).

24.   In reference to Claim 16, Bailey and Ohde teach the limitations as in Claim 15

above. Bailey and Ohde do not teach that the register changes the number by

incrementing it. At the time the invention was made, it would have been obvious to a

person of ordinary skill in the art to increment the number in the register because

Applicant has not disclosed that incrementing the number in the register provides an

advantage, is used for a particular purpose, or solves a stated problem. One of ordinary

skill in the art, furthermore, would have expected Applicant's invention to perform

equally well with either decrementing the number stored in the register, as taught by

Bailey and Ohde, or incrementing the number stored in the register, as claimed,

because both methods perform the function of counting a specified number of counts,

and because incrementing and decrementing both require the same hardware and run time to perform the operation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bailey and Ohde to obtain the invention specified in Claim 15.

25.   In reference to Claim 19, Bailey and Ohde teach the limitations as in Claim 15 above. Bailey further teaches an interrupt circuit in the ASIC (analogous to interrupt disable logic) (See Figure 3 Number 114 and Column 15 Lines 1-2) and that the bits in the interrupt enable register that disable the interrupts (analogous to an interrupt disable signal) stay written throughout the entire time that the timer is set to disable interrupts (See Figure 7, Column 15 Lines 15-16, and Column 15 Lines 37-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Bailey with the counter stored in a register of Ohde, resulting in the invention of Claim 19, in order to provide high-speed access to the timer indicating how long the interrupts are disabled (See "register" on Page 402 of Microsoft).

26.   Claims 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey as applied to Claims 7 and 15 above, and further in view of US Patent Number 6,260,162 to Typaldos et al. ("Typaldos").

27.   In reference to Claim 13, Bailey, Ohde, and Microsoft teach the limitations as in

Claim 7 above. Bailey, Ohde, and Microsoft do not teach writing the register with a

value based on a write instruction. Typaldos teaches a watchdog timer which allows the

reset counter to be written to (See Column 2 Lines 25-36).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the device of Bailey with the programmable watchdog

timer of Typaldos, resulting in the invention of Claim 13, in order to provide a

programmable duration for the counter, and thus lengthen or shorten the time on the

counter before the counter hits its predetermined value (See Column 2 Lines 27-29 of

Typaldos).

28.   In reference to Claim 21, Bailey, Ohde, and Microsoft teach the limitations as in

Claim 15 above. Bailey, Ohde, and Microsoft do not teach a write instruction updating

the register. Typaldos teaches a watchdog timer which allows the reset counter to be

written to (See Column 2 Lines 25-36).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the device of Bailey with the programmable watchdog

timer of Typaldos, resulting in the invention of Claim 21 , in order to provide a

programmable duration for the counter, and thus lengthen or shorten the time on the

counter before the counter hits its predetermined value (See Column 2 Lines 27-29 of

Typaldos).

Conclusion

29.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

30.   US Patent Number 5,875,342 to Temple ("Temple-342") is directed towards issuing an instruction for disabling interrupts and setting a time limit that interrupts are to be disabled for.
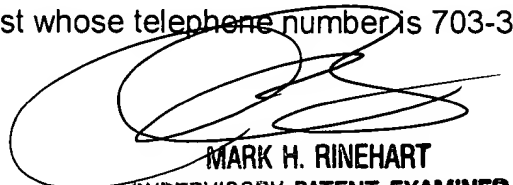
31.   US Patent Number 5,937,199 to Temple ("Temple-199") is directed towards issuing an instruction for disabling interrupts and setting a time limit that interrupts are to be disabled for.

32.   US Patent Number 5,740,451 to Muraki et al. ("Muraki") is directed towards determining the amount of time that interrupts are disabled.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Cleary whose telephone number is 703-305-5824. The examiner can normally be reached on Monday-Thursday (8-5:30), Alt. Fridays (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark H. Rinehart can be reached on 703-305-4815. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-306-

5631.

MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

tjc

Thomas J. Cleary
Patent Examiner
Art Unit 2111